



STV9379FA

VERTICAL DEFLECTION BOOSTER

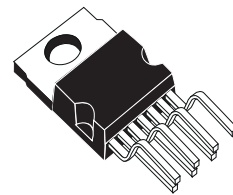
- POWER AMPLIFIER
- THERMAL PROTECTION
- OUTPUT CURRENT UP TO 2.6A_{PP}
- FLYBACK VOLTAGE UP TO 90V (on Pin 5)
- SUITABLE FOR DC COUPLING APPLICATION
- EXTERNAL FLYBACK SUPPLY

DESCRIPTION

Designed for monitors and high performance TVs, the STV9379FA vertical deflection booster can handle flyback voltage up to 90V. Further to this, it is possible to have a flyback voltage which is more than the double of the supply (Pin 2). This allows to decrease the power consumption, or to decrease the flyback time for a given supply voltage.

The STV9379FA operates with supplies up to 42V and provides up to 2.6A_{PP} output current to drive the yoke.

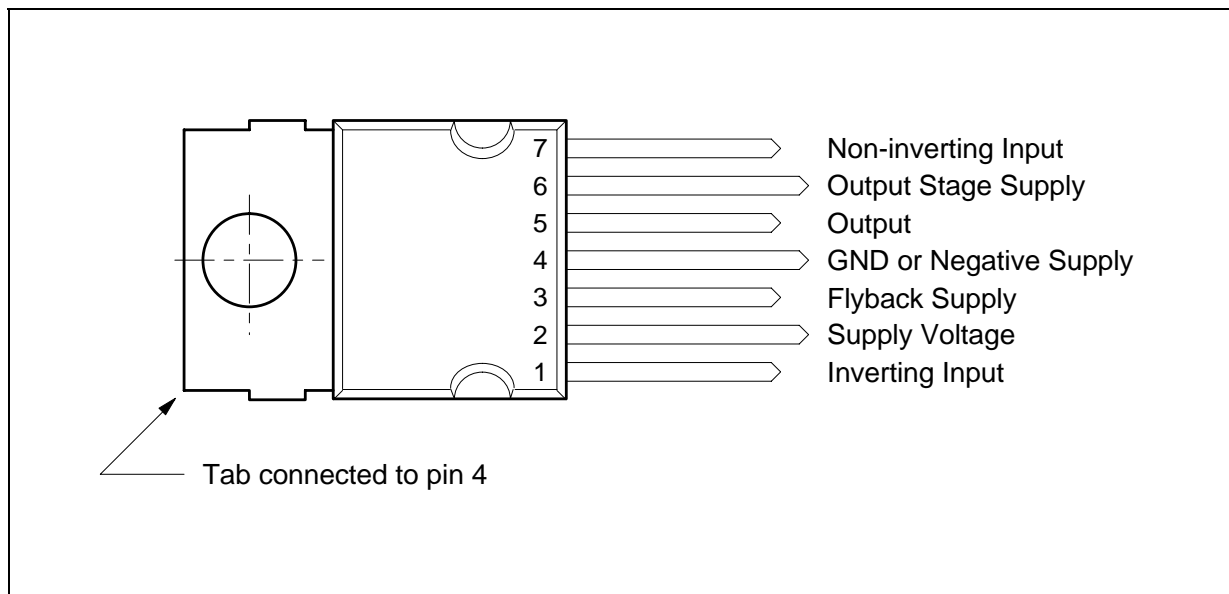
The STV9379FA is offered in HEPTAWATT package.



HEPTAWATT
(Plastic Package)

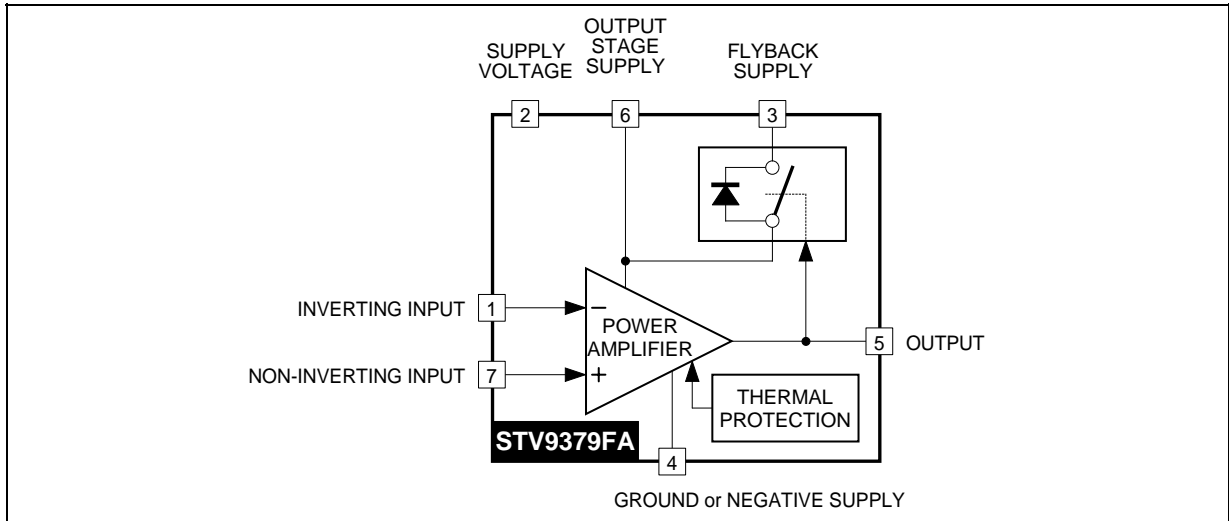
ORDER CODE : STV9379FA

PIN CONNECTIONS



9379FA01.EPS

BLOCK DIAGRAM



9379FA02.EPS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (Pin 2) (see note 1)	50	V
V_6	Flyback Peak Voltage (Pin 6) (see note 1)	100	V
V_1, V_7	Amplifier Input Voltage (Pins 1-7) (see note 1)	- 0.3, + V_S	V
I_O	Maximum Output Peak Current (see notes 2 and 3)	1.8	A
I_3	Maximum Sink Current ($t < 1\text{ms}$)	1.8	A
I_3	Maximum Source Current ($t < 1\text{ms}$) (in the diode, see Block Diagram) (see note 2)	1.8	A
V_{ESD}	ESD susceptibility : EIAJ Norm (200pF discharged through 0Ω)	300	V
$V_3 - V_2$	Voltage Difference between Flyback Supply and Supply Voltage	50	V
T_{oper}	Operating Ambient Temperature	- 20, + 75	°C
T_{stg}	Storage Temperature	- 40, + 150	°C
T_j	Junction Temperature	+150	°C

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- Notes :**
1. Versus Pin 4.
 2. The output current can reach 5A peak for $t \leq 10\mu\text{s}$ (up to 120Hz).
 3. Provided SOAR is respected (see Figures 1 and 2).

THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case Thermal Resistance	Max. 3	°C/W
T_t	Temperature for Thermal Shutdown	150	°C
ΔT_t	Hysteresis on T_t	10	°C
T_{jr}	Recommended Max. Junction Temperature	120	°C

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ELECTRICAL CHARACTERISTICS

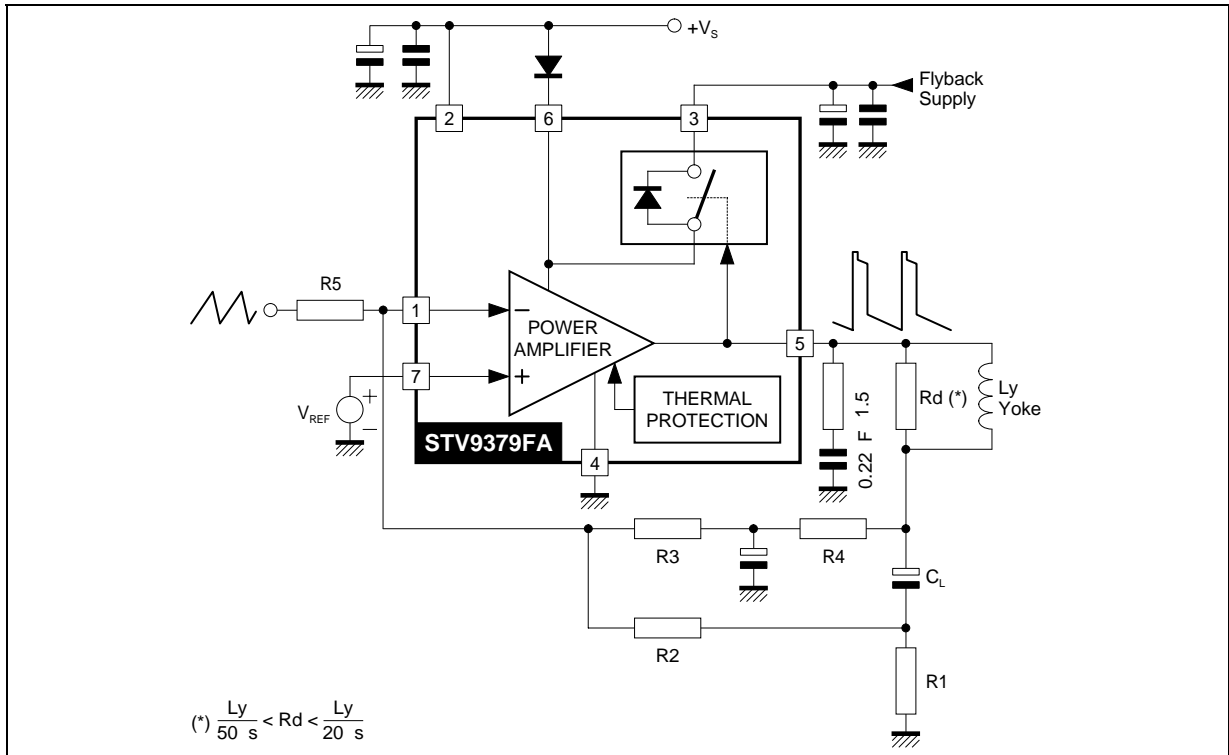
($V_S = 42V$, $T_A = 25^\circ C$, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_S	Operating Supply Voltage Range	Versus Pin 4	10		42	V
V_{3M}	Operating Flyback Supply Voltage ($V_{3M} \leq V_S + 50V$)	Versus Pin 4	V_S		90	V
I_2	Pin 2 Quiescent Current	$I_3 = 0, I_5 = 0$		13	20	mA
I_6	Pin 6 Quiescent Current	$I_3 = 0, I_5 = 0$	5	10	30	mA
I_O	Max. Operating Peak Output Current				1.3	A
I_1	Amplifier Bias Current	$V_1 = 22V, V_7 = 23V$		- 0.15	- 1	μA
I_7	Amplifier Bias Current	$V_1 = 23V, V_7 = 22V$		- 0.15	- 1	μA
V_{IO}	Offset Voltage				7	mV
$\Delta V_{IO}/dt$	Offset Drift versus Temperature			- 10		$\mu V/^\circ C$
GV	Voltage Gain		80			dB
V_{5L}	Output Saturation Voltage to GND (Pin 4)	$I_5 = 1.3A$		1	1.6	V
V_{5H}	Output Saturation Voltage to Supply (Pin 6)	$I_5 = - 1.3A$		1.6	2.2	V
V_{D5-6}	Diode Forward Voltage between Pins 5-6	$I_5 = 1.3A$		1.4	2.1	V
V_{D3-6}	Diode Forward Voltage between Pins 3-6	$I_3 = 1.3A$		1.7	2.5	V
V_{3-6}	Voltage Drop between Pins 3-6 (2nd part of flyback)	$I_3 = - 1.3A$		2.9	3.6	V

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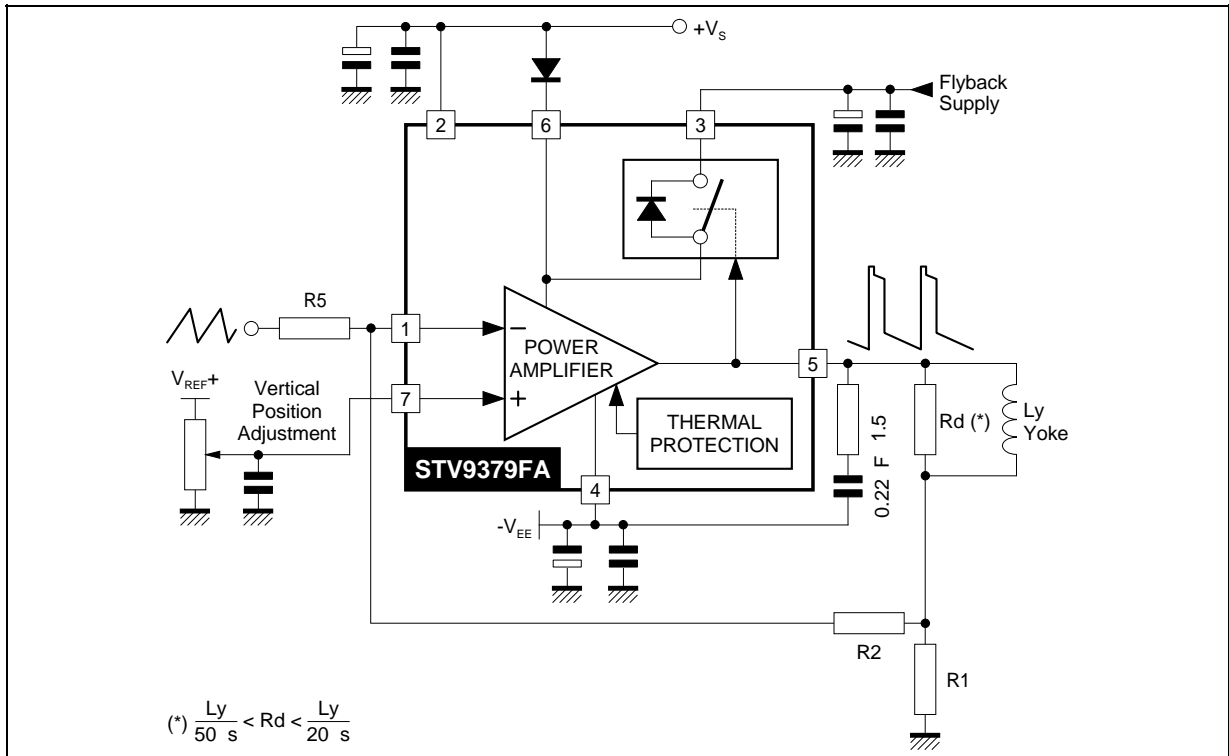
APPLICATION CIRCUITS

AC COUPLING



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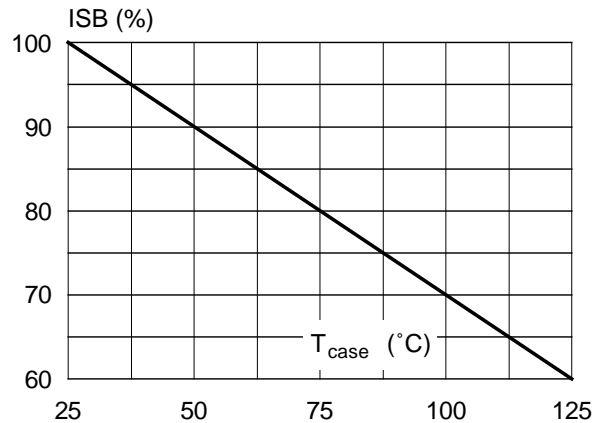
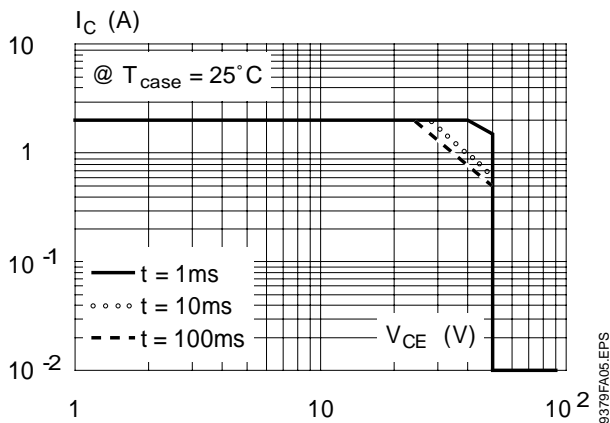
APPLICATION CIRCUITS (continued)
DC COUPLING



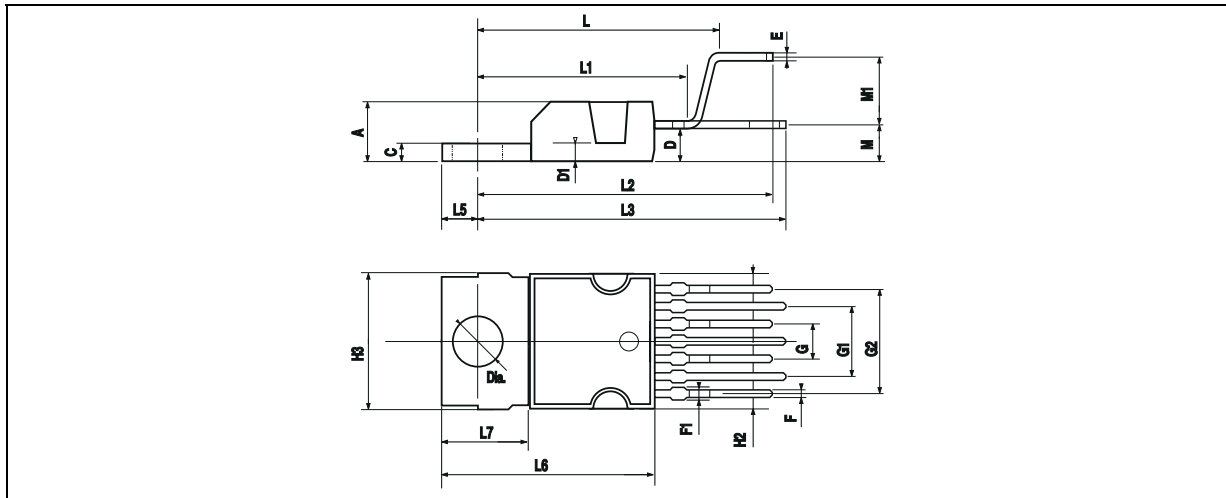
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Figure 1 : Output Transistors SOA
(for secondary breakdown)

Figure 2 : Secondary Breakdown Temperature
Derating Curve
(ISB = secondary breakdown current)



PACKAGE MECHANICAL DATA : 7 PINS - PLASTIC HEPTAWATT



PM-HEPTV.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			4.8			0.189
C			1.37			0.054
D	2.4		2.8	0.094		0.110
D1	1.2		1.35	0.047		0.053
E	0.35		0.55	0.014		0.022
F	0.6		0.8	0.024		0.031
F1			0.9			0.035
G	2.41	2.54	2.67	0.095	0.100	0.105
G1	4.91	5.08	5.21	0.193	0.200	0.205
G2	7.49	7.62	7.8	0.295	0.300	0.307
H2			10.4			0.409
H3	10.05		10.4	0.396		0.409
L		16.97			0.668	
L1		14.92			0.587	
L2		21.54			0.848	
L3		22.62			0.891	
L5	2.6		3	0.102		0.118
L6	15.1		15.8	0.594		0.622
L7	6		6.6	0.236		0.260
M		2.8			0.110	
M1		5.08			0.200	
Dia.	3.65		3.85	0.144		0.152

HEPTV.TBL

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